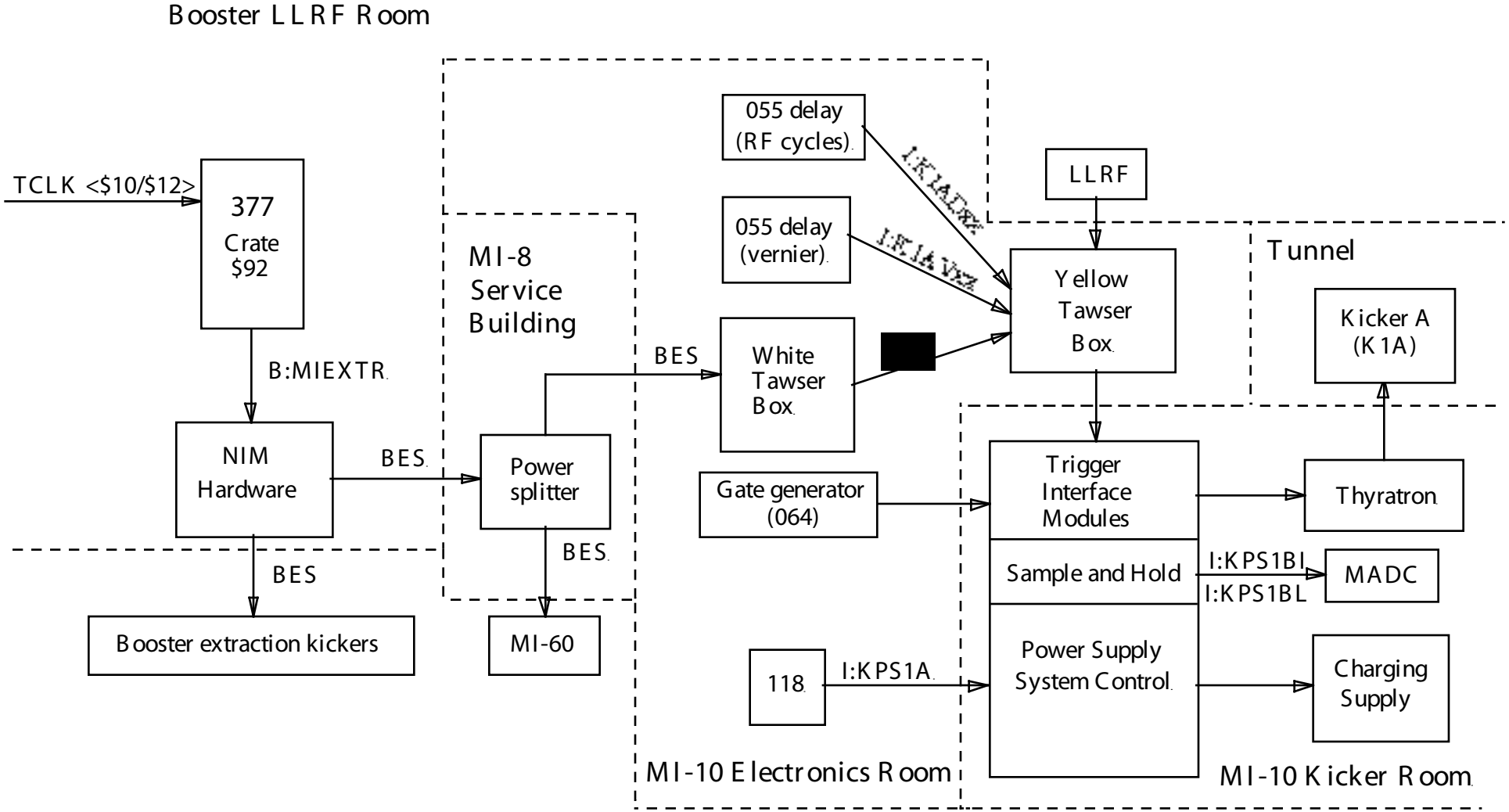

Fig. 7-10 Injection Kicker Timing and Control

The injection kickers in the Main Injector get their timing from the Booster Extraction Sync (BES), which pre-dates the other beam sync clocks. BES is initiated by by Booster beam and pre-pulse events ($10's and $12's) and generated by NIM hardware in the Booster LLRF Room. The BES signal is fanned out to the Booster extraction kickers, MI-60, and MI-10. The white Tawser box in the electronics room at MI-10 distributes the signal to three yellow Tawser boxes, one of which is shown in this diagram. The yellow Tawser boxes add the RFC and vernier delays to the BES time, using the LLRF as a reference. Finally, the combined signal tells the trigger interface modules exactly when to fire the thyratron.

A CAMAC 118 card sets the DC level for the kicker voltage. A DC level is sufficient because the beam is always at 8 GeV.

For simplicity, this diagram only shows timing and control for the first kicker, K1A.